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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,648	11/14/2003	Gynheung An	20010-04USA	1653

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EXAMINER	
KUMAR, VINOD	

ART UNIT	PAPER NUMBER
1638	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/713,648	AN ET AL.	
	Examiner	Art Unit	
	Vinod Kumar	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2003*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-66* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-25 and 36, drawn to a nucleic acid, classified in class 536, subclass 23.1, for example.

II. Claims 26-35, drawn to a polypeptide, classified in class 530, subclass 350, for example.

III. Claims 37-40 and 50-58 drawn to a genetically modified plant, classified in class 435, subclass 419, for example.

IV. Claim 41, drawn to genetically modified rice plant comprising expression of a polypeptide, classified in class 435, subclass 419, for example.

V. Claims 42 and 43, drawn to a method of screening a rice plant for desirable characteristics, classified in class 800, subclass 285, for example.

VI. Claims 44-49 and 60, drawn to a method of producing a genetically modified plant having an altered phenotype, classified in class 800, subclass 278, for example.

VII. Claim 59, drawn to an antibody, classified in class 424, subclass 130.1, for example.

VIII. Claims 61-66, drawn to a computer readable medium comprising data related to nucleic acids or amino acid sequence, classified in class 700, subclass 23, for example.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case the different inventions have different modes of operations, functions, and effects. The products of Group I and II have different structures and properties, making them distinct inventions. The products of Groups I and II can be produced by means that do not require use of the other product, such as chemical synthesis. A search for the protein of Group II may not produce information concerning the nucleic acid sequence that encodes it.

Inventions I-II and III-IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case the different inventions have different modes of operations, functions, and effects. The nucleic acid of Group I can be used in a process, such as hybridization, that does not require the plant of Group III or Group IV. The transgenic plant of Group III does not require the protein of Group II for its production. A search for the nucleic acid of Group I may not reveal information concerning the transgenic plant of Group III or Group IV. A search for the protein of Group II is not required for the search of the transgenic plant of Group III or Group IV.

Inventions I-II and V-VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different modes of operations, functions, and effects. The nucleic acid of Group I and protein of Group II do not require the plants screened by the

method of Group V or a transgenic plant with an altered phenotype produced by the method of Group VI. A search for the nucleic acid of Group I and protein of Group II may not reveal information concerning the method of screening plants with desirable characteristics of Group V or the method of producing a genetically modified plant of Group VI.

Inventions I-II and VII-VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case the different inventions have different modes of operations, functions, and effects. The nucleic acid of Group I and protein of Group II do not require the antibody of Group VII or a computer readable medium comprising data related to nucleic acids or amino acid sequences of Group VIII. A search for the nucleic acid of Group I and protein of Group II may not reveal information concerning the antibody of Group VII or a computer readable medium of Group VIII.

Inventions III and IV are patentably distinct. Group III invention does not require expression of nucleic acid introduced in the plant, whereas the Group IV invention requires over-expression or under-expression of the polypeptide in the genetically modified plant. Furthermore, searching the invention of Groups III and IV would result in undue search burden, if done together. Searching the invention of Group IV will involve extensive search of art pertaining to over-expression and co-suppression of a nucleic acid encoding for a polypeptide. The art search for the invention of Groups III and IV are not coextensive.

Inventions III-IV and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs,

modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case the different inventions have different modes of operations, functions, and effects. The transgenic plants of Groups III-IV do not require the method of screening rice plants with desirable characteristics of Group V. A search for plants of Groups III-IV may not reveal information concerning the method of screening a rice plant with desirable characteristics of Group V. The art search for the inventions of Groups III-IV are not coextensive.

Inventions III-IV and VI are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the transgenic plants of Groups III-IV can be produced by a materially different process, such as by isolation of a plant cell from a transgenic plant and subsequently regenerating into a transgenic plant. Furthermore, invention of Groups III-IV do not require a transgenic plant with a phenotype as required by the invention of Group VI. Additionally, art search for the inventions of Groups III-IV and VI are not coextensive.

Inventions III-IV and VII-VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case the different inventions have different modes of operations, functions, and effects. The transgenic plants of Groups III-IV do not require the antibody of Group VII or computer readable medium of Group VIII. A search for plants of Group III or IV may not reveal information concerning the antibody of Group VII or computer readable medium

of Group VIII. The art search for the inventions of Groups III-IV and VII-VIII are not coextensive. Searching the inventions of III-IV and VII-VIII together would result in undue search burden.

Inventions V and VI are patentably distinct. Invention of Group V requires screening a rice plant with desirable characteristics, whereas the invention of Group VI requires producing a plant with an altered phenotype. The invention of Group V does not require to produce plants with up or down regulation of a transgene as required by the invention of Group VI. Searching the inventions of Groups V and VI together would result in undue search burden. The art search for the inventions of Groups V and VI are not coextensive.

Inventions V-VI and VII-VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case the different inventions have different modes of operations, functions, and effects. The plants produced by the methods of Groups V-VI do not require an antibody of Group VII or a computer readable medium of Group VIII. A search for the methods of Groups V-VI may not reveal information concerning the antibody of Group VII or a computer readable medium of Group VIII. Furthermore, searching the invention of Groups V-VI and VII-VIII together would result in search burden.

Inventions VII and VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case the different inventions have different modes of operations, functions, and effects. In the instant case, an antibody of Group VII is not required by a computer readable medium

of Group VIII. A search for the antibody of Group VII would not reveal any information concerning the computer readable medium of Group VIII. Furthermore, searching the art of inventions VII and VIII together would result in search burden. The art search for the inventions of Groups VII and VIII are not coextensive.

Claims 37 and 40 are generic to the following disclosed patentably distinct species: AOX1a, XA21-like protein kinase, receptor-like protein kinase, MMSDH1, homolog of the RNA-binding protein LAH1, vacuolar ATP synthase subunit X, cinnamic acid 4-hydroxylase, H-protein promoter binding factor-2a, FEN-1, Hsp70, ammonium transporter, ATP-dependent RNA helicase, glucose-6-phosphate/phosphate transporter, RNA methyltransferase, actin depolymerizing factor 5, beta-glucosidase for claim 37, and 1b-115-22, 1b-164-43, 1b-192-40, 1b-207-27, 1b-138-07, 1d-059-12, 1c-087-40, 1c017-14, 1c-038-56, 1c041-47, 1c-064-20, 1c-109-35, 1c-109-51, 1c-056-07, 1c-100-32, 1c-142-27, 1c-140-04 for claim 40. The species are independent or distinct because these species are made up of nucleic acid sequences which are chemically and structurally distinct compounds. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species from claim 37 which should correspond to the elected species from claim 40, even though this requirement is traversed. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Applicants are reminded that different nucleotide sequences and amino acid sequences are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute independent and

distinct inventions within the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence and each amino acid sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq.

Applicants are required to elect one nucleic acid sequence and one encoded amino acid sequence to be examined in conjunction with the elected Group of claims. In the instant case, for Groups I and VIII, one of nucleotide sequence and its encoded polypeptide from SEQ ID NOs: 1-51 and 52-68; for Groups II, IV and VII, one polypeptide sequence from SEQ ID NOs: 52-68; for Group III, one of nucleotide sequence and its encoded polypeptide from SEQ ID NOs: 18-34 and 52-68; for Group V, one of nucleotide sequence from SEQ ID NOs: 18-34; for Group VI, one of nucleotide sequence and its encoded polypeptide from SEQ ID NOs: 18-34 and 52-68. For Group III, the elected nucleotide sequence and its encoded protein must correspond to the elected species of claims 37 and 40. This requirement is not to be construed as a requirement for an election of species, since each nucleotide sequence is not a member of single genus of invention, but constitutes an independent and patentably distinct invention.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification and divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod Kumar whose telephone number is (571) 272-4445. The examiner can normally be reached on 8.30 a.m. to 5.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571)272-0975. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vinod Kumar
June 8, 2006

PHUONG T. BUI 6/8/06
PRIMARY EXAMINER